

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of organizing image data forming a picture image defined by a plurality of levels, each level including a plurality of subpicture areas corresponding to a different level of image data resolution relative to image data resolution levels corresponding to subpicture areas in other levels, the method comprising:

receiving a subpicture element having image data for inclusion in the picture image;
identifying a subpicture area in which the subpicture element may be placed, the identified subpicture area being in the lowest possible level of the picture image;
placing the image data of the subpicture element in the identified subpicture area;
upon a determination that the amount of image data in the identified subpicture area exceeds a predetermined maximum amount following the step of placing, identifying overlapping subpicture areas in a level corresponding to the next higher image data resolution level that overlaps the identified subpicture area; and

following the step of identifying, placing image data of one or more subpicture elements from the identified subpicture area into at least one of the overlapping subpicture areas from subpicture.

2. (Original) The method of claim 1, further comprising:
repeating the steps of selecting a subpicture element, identifying a subpicture area, placing the image data, identifying overlapping subpicture areas and placing one or more subpicture elements for a new subpicture element.

3. (Original) The method of claim 1, further comprising:
upon a determination that the amount of image data in the identified subpicture area exceeds a predetermined maximum amount following the step of placing and that the identified subpicture area is in a level corresponding to a highest image data resolution level, redefining the subpicture areas of the picture image.

4. (Original) The method of claim 1, further comprising:
upon a determination that the number of overlapping subpicture areas is zero, redefining the subpicture areas of the picture image.

5. (Original) The method of claim 1, further comprising:
upon a determination that the amount of image data in the identified subpicture area exceeds the predetermined maximum following the step of placing image data of one or more subpicture elements, redefining the subpicture areas of the picture image.

6. (Original) The method of claim 1, wherein:
the at least one of the overlapping subpicture areas comprise the overlapping subpicture areas that are capable of receiving image data from the identified subpicture area so that the amount of image data in the identified subpicture area is less than the predetermined maximum amount.

7. (Original) The method of claim 1, further comprising:
selectively redefining the subpicture areas of the picture image.

8. (Original) The method of claim 7, further comprising:
initially receiving a picture scheme for the picture image defining the subpicture areas within the levels;
wherein the step of selectively redefining comprises:
extracting placed subpicture elements;
receiving a new picture scheme for a new picture image; and
repeating the steps of selecting a subpicture element, identifying a subpicture area, placing the image data, identifying overlapping subpicture areas and placing one or more subpicture elements for each of the extracted subpicture elements.

9. (Original) The method of claim 1, further comprising:
identifying the overlapping subpicture area capable of receiving the greatest amount of image data from the identified subpicture area; and
upon a determination that the amount of image data in the identified subpicture area less the greatest amount of image data exceeds a predetermined minimum amount following the step of placing, redefining the subpicture areas of the picture image.

10. (Original) The method of claim 1, wherein:
following the step of identifying overlapping subpicture areas, placing image data of one or more subpicture elements into the at least one subpicture area from one or more subpicture areas that overlap the at least one subpicture area in a next level corresponding to a lower image data resolution level.

11. (Original) A computer software product for a graphics display system that organizes image data forming a picture image defined by a plurality of levels, each level including a plurality of subpicture areas corresponding to a different level of image data resolution relative to image data resolution levels corresponding to subpicture areas in other levels, the computer software product including instructions for:

receiving a subpicture element having image data for inclusion in the picture image;
identifying a subpicture area in which the subpicture element may be placed, the identified subpicture area being in the lowest possible level of the picture image;
placing the image data of the subpicture element in the identified subpicture area;
upon a determination that the amount of image data in the identified subpicture area exceeds a predetermined maximum amount following the instruction for placing, identifying overlapping subpicture areas in a level corresponding to the next higher image data resolution level that overlaps the identified subpicture area; and
following the instruction for identifying, placing image data of one or more subpicture elements from the identified subpicture area into at least one of the overlapping subpicture areas.

12. (Original) The computer software product of claim 11, further comprising an instruction for:

repeating the instructions of selecting a subpicture element, identifying a subpicture area, placing the image data, identifying overlapping subpicture areas and placing one or more subpicture elements for a new subpicture element.

13. (Original) The computer software product of claim 11, further comprising an instruction for:

upon a determination that the amount of image data in the identified subpicture area exceeds a predetermined maximum amount following the instruction for placing and that the identified subpicture area is in a level corresponding to a highest image data resolution level, redefining the subpicture areas of the picture image.

14. (Original) The computer software product of claim 11, further comprising an instruction for:

upon a determination that the number of overlapping subpicture areas is zero, redefining the subpicture areas of the picture image.

15. (Original) The computer software product of claim 11, further comprising an instruction for:

upon a determination that the amount of image data in the identified subpicture area exceeds the predetermined maximum following the instruction for placing image data of one or more subpicture elements, redefining the subpicture areas of the picture image.

16. (Original) The computer software product of claim 11, wherein:
the at least one of the overlapping subpicture areas comprise the overlapping subpicture areas that are capable of receiving image data from the identified subpicture area so that the amount of image data in the identified subpicture area is less than the predetermined maximum amount.

17. (Original) The computer software product of claim 11, further comprising an instruction for:
selectively redefining the subpicture areas of the picture image.

18. (Original) The computer software product of claim 17, further comprising an instruction for:
initially receiving a picture scheme for the picture image defining the subpicture areas within the levels;
wherein the instruction for selectively redefining comprises:
extracting placed subpicture elements;
receiving a new picture scheme for a new picture image; and
repeating the instructions of selecting a subpicture element, identifying a subpicture area, placing the image data, identifying overlapping subpicture areas and placing one or more subpicture elements for each of the extracted subpicture elements.

19. (Original) The computer software product of claim 11, further comprising an instruction for:
identifying the overlapping subpicture area capable of receiving the greatest amount of image data from the identified subpicture area; and
upon a determination that the amount of image data in the identified subpicture area less the greatest amount of image data following the instruction for placing exceeds a predetermined minimum amount, redefining the subpicture areas of the picture image.

20. (Original) The computer software product of claim 11, wherein:
image data in each subpicture area is individually transportable between memory in the graphics display system and display monitor device therein.

21. (Original) A graphics display system for organizing image data forming a picture image defined by a plurality of levels, each level including a plurality of subpicture areas corresponding to a different level of image data resolution relative to image data resolution levels corresponding to subpicture areas in other levels, comprising:

a processor; and
a memory device having computer software code stored therein, the processor and the memory device being capable of:
identifying a subpicture element having image data for inclusion in the picture image;
identifying a subpicture area in which the subpicture element may be placed, the identified subpicture area being in the lowest possible level of the picture image;
placing the image data of the subpicture element in the identified subpicture area;
upon a determination that the amount of image data in the identified subpicture area exceeds a predetermined maximum amount following the placing, identifying overlapping subpicture areas in a level corresponding to the next higher image data resolution level that overlaps the identified subpicture area; and
following the identifying, placing image data of one or more subpicture elements from the identified subpicture area into at least one of the overlapping subpicture areas.

22. (Original) The graphics display system of claim 21, wherein the processor and memory device being further capable of:
repeating the selecting a subpicture element, identifying a subpicture area, placing the image data, identifying overlapping subpicture areas and placing one or more subpicture elements for a new subpicture element.

23. (Original) The graphics display system of claim 21, wherein the processor and memory device being further operable for:
upon a determination that the amount of image data in the identified subpicture area exceeds a predetermined maximum amount following the placing and that the identified subpicture area is in a level corresponding to a highest image data resolution level, redefining the subpicture areas of the picture image.

24. (Original) The graphics display system of claim 21, wherein the processor and memory device being further operable for:
upon a determination that the number of overlapping subpicture areas is zero, redefining the subpicture areas of the picture image.

25. (Original) The graphics display system of claim 21, wherein the processor and memory device being further operable for:

upon a determination that the amount of image data in the identified subpicture area exceeds the predetermined maximum following the placing of image data of one or more subpicture elements, redefining the subpicture areas of the picture image.

26. (Original) The graphics display system of claim 21, wherein:
the at least one of the overlapping subpicture areas comprise the overlapping subpicture areas that are capable of receiving image data from the identified subpicture area so that the amount of image data in the identified subpicture area is less than the predetermined maximum amount.

27. (Original) The graphics display system of claim 21, wherein the processor and memory device being further operable for:

selectively redefining the subpicture areas of the picture image.

28. (Original) The graphics display system of claim 27, wherein the processor and memory device being further operable for:

initially receiving a picture scheme for the picture image defining the subpicture areas within the levels;

wherein the selectively redefining comprises:

extracting placed subpicture elements;

receiving a new picture scheme for a new picture image; and

repeating the selecting a subpicture element, identifying a subpicture area, placing the image data, identifying overlapping subpicture areas and placing one or more subpicture elements for each of the extracted subpicture elements.

29. (Original) The graphics display system of claim 21, wherein the processor and memory device being further operable for:

identifying the overlapping subpicture area capable of receiving the greatest amount of image data from the identified subpicture area; and

upon a determination that the amount of image data in the identified subpicture area less the greatest amount of image data exceeds a predetermined minimum amount following the step of placing, redefining the subpicture areas of the picture image.